

Fact Sheet



For Final Minor Modification Permitting Action Under 45CSR30 and Title V of the Clean Air Act

This Fact Sheet serves to address the changes specific to this Minor Modification, and shall be considered a supplement to the Fact Sheet corresponding with the Title V operating permit issued on April 10, 2012.

Permit Number: **R30-00300042-2012**

Application Received: **September 18, 2014**

Plant Identification Number: **003-00042**

Permittee: **Quad/Graphics, Inc.**

Facility Name: **Martinsburg Plant**

Mailing Address: **855 Caperton Boulevard, Martinsburg, WV 25401**

Permit Action Number: *MM01* Revised: *February 23, 2015*

Physical Location:	Martinsburg, Berkeley County, West Virginia
UTM Coordinates:	247.0 km Easting • 4,377.0 km Northing • Zone 18
Directions:	I-81 to Exit 16 (Route 9 West) to County Route 1. Turn right into Cumbo Yard Industrial Park.

Facility Description

Quad/Graphics (Quad) is a commercial printing business permitted for 18 rotogravure presses, 21 carbon adsorbers, 6 natural gas/propane fueled boilers, 3 hard chromium electroplating tanks and scrubbers, 15 solvent/ink storage tanks, 12 offset lithographic presses with catalytic oxidizers or regenerative thermal oxidizers, 1 cylinder cleaning unit, finishing/inkjet production, and an ink blend operation involving 11 storage tanks, 7 mixing tanks, and 3 totes. Not all of the permitted equipment has been installed. Quad/Graphics has installed 11 rotogravure presses, 13 carbon adsorbers, 4 natural gas/propane fueled boilers, 2 hard chromium electroplating tanks, 14 solvent/ink storage tanks, 3 offset lithographic presses (2 with thermal oxidizers and 1 with a catalytic oxidizer), 1 cylinder cleaning unit, finishing/inkjet production, and an ink blend operation consisting of 11 storage tanks, 7 mixing tanks, and 3 totes. Quad/Graphics' Standard Industrial Classification (SIC) Codes are 2752, 2754, and 2893 and the corresponding North American Industry Classification System (NAICS) codes are 323110, 323114, and 325791.

Based on the use of a higher VOC-containing washing solution, Quad/Graphics is proposing an increase in the VOC emissions of the Renzmann Cylinder Washer (RZ-01) with this modification.

Emissions Summary

VOC emissions will increase by 11.34 lb/hr and 13.59 TPY.

Title V Program Applicability Basis

With the proposed changes associated with this modification, this facility maintains the potential to emit 1398.64 TPY of VOCs, 1142.62 TPY of Toluene, and 1150.46 TPY of total HAPs. Due to this facility's potential to emit over 100 tons per year of criteria pollutant, over 10 tons per year of a single HAP, and over 25 tons per year of aggregate HAPs, Quad/Graphics is required to have an operating permit pursuant to Title V of the Federal Clean Air Act as amended and 45CSR30.

Legal and Factual Basis for Permit Conditions

The State and Federally-enforceable conditions of the Title V Operating Permits are based upon the requirements of the State of West Virginia Operating Permit Rule 45CSR30 for the purposes of Title V of the Federal Clean Air Act and the underlying applicable requirements in other state and federal rules.

The modification to this facility has been found to be subject to the following applicable rules:

Federal and State:	40 CFR 63, Subpart KK	Printing and Publishing MACT
	45CSR13	Construction/Modification Permits
	45CSR30	Operating permit requirement
	45CSR34	Emission Standards for Hazardous Air Pollutants

Each State and Federally-enforceable condition of the Title V Operating Permit references the specific relevant requirements of 45CSR30 or the applicable requirement upon which it is based. Any condition of the Title V permit that is enforceable by the State but is not Federally-enforceable is identified in the Title V permit as such.

The Secretary's authority to require standards under 40 C.F.R. Part 60 (NSPS), 40 C.F.R. Part 61 (NESHAPs), and 40 C.F.R. Part 63 (NESHAPs MACT) is provided in West Virginia Code §§ 22-5-1 *et seq.*, 45CSR16, 45CSR34 and 45CSR30.

Active Permits/Consent Orders

Permit or Consent Order Number	Date of Issuance	Permit Determinations or Amendments That Affect the Permit (<i>if any</i>)
R14-0012F	December 18, 2014	

Conditions from this facility's Rule 13 permit(s) governing construction-related specifications and timing requirements will not be included in the Title V Operating Permit but will remain independently enforceable under the applicable Rule 13 permit(s). All other conditions from this facility's Rule 13 permit(s) governing the source's operation and compliance have been incorporated into this Title V permit in accordance with the "General Requirement Comparison Table," which may be downloaded from DAQ's website.

Determinations and Justifications

Emission Calculation Methodology

Since the only modification made with this permit modification was the use of a higher VOC-containing washing solution, the following will only detail the VOC emission calculation methodologies of the Renzmann Cylinder Washer (RZ-01).

The potential emissions from the RENZMANN cylinder washer are based on a mass balance equation, and all VOCs within the lost cleaning solvent are estimated to be emitted. Maximum hourly and annual emissions were based on the following information:

- 4.34 lbs solvent used/cylinder washed;
- 3.60 cylinders cleaned/hour;
- 3,228 hours of operation/rolling 12-month period; and
- A 98% VOC concentration in the new cleaning solution.

Based on this mass balance equation, the proposed new VOC emissions from the cylinder washer are calculated to be 15.34 lbs/hour and 24.76 tons/year. This represents a VOC increase of 11.34 lbs/hour and 13.59 tons/year from use of the new solution.

40 CFR 63, Subpart KK: National Emission Standards for the Printing and Publishing Industry

The printing and publishing MACT standards, published on May 30, 1996, and amended on May 24, 2006 and April 21, 2011, impose control requirements on publication and product/package rotogravure presses and wide-web flexographic presses. 40 CFR 63, Subpart KK standards provide major HAP sources with a number of compliance options. Specifically, sources may limit their HAP emissions by:

1. Employing traditional control devices such as incinerators
2. Installing HAP recovery devices such as condensers or carbon adsorbers
3. Reducing the HAP content of products they use by replacing the HAPs with less hazardous materials, or
4. Employing combinations of control and recovery devices and/or material substitution.

Quad/Graphics currently shows compliance with 40 CFR 63, Subpart KK's 92% destruction/recovery HAP requirement (40 CFR §63.824) by utilizing a carbon adsorption Solvent Recovery System (SRS). This system, with an inlet/outlet capture efficiency of 98.25%, combined with the 100% capture of the press room enclosures, gives an overall annual control efficiency of the rotogravure presses of 96.00% (solvent retention in the printed materials makes up the difference in overall control percentage).

The cylinder washing unit (RZ-01) is also subject to the provisions of 40 CFR§63.824 but is not vented to the SRS. It will meet the requirement by limiting the HAP contents of the materials used to less than 8% of the total volatile matter of the material, by weight. Quad/Graphics has estimated that no HAPs will be emitted in the cylinder washing unit.

Changes Made to the Permit

The only changes made to this permit were in Appendices A and B. These changes are as follows:

- The annual emissions for VOCs and HAPs for the Solvent Recovery System (SRS) were revised to correct a typographical error in Appendix A.
- The hourly and annual Maximum Potential Emissions for the Renzman Cylinder Washer (RZ-01) were updated in Appendix A.
- Hourly VOC emission limits for uncaptured fugitive emissions from cleaning and MEK emission limits were added to Appendix B. These changes were made with R14-0012D and in
- advertently left out of the Title V permit.

Non-Applicability Determinations

The following requirements have been determined not to be applicable to the subject facility due to the following:

None

Request for Variances or Alternatives

None.

Insignificant Activities

Insignificant emission unit(s) and activities are identified in the Title V application.

Comment Period

Beginning Date: N/A

Ending Date: N/A

Point of Contact

All written comments should be addressed to the following individual and office:

Rex Compston, P.E.
West Virginia Department of Environmental Protection
Division of Air Quality
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Charleston, WV 25304
Phone: 304/926-0499 ext. 1209 • Fax: 304/926-0478
Rex.E.Compston@wv.gov

Procedure for Requesting Public Hearing

During the public comment period, any interested person may submit written comments on the draft permit and may request a public hearing, if no public hearing has already been scheduled. A request for public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing. The Secretary shall grant such a request for a hearing if he/she concludes that a public hearing is appropriate. Any public hearing shall be held in the general area in which the facility is located.

Response to Comments (Statement of Basis)

Not applicable.